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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,692	12/02/2003	Kathrin Michl	246049US0	1976

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EXAMINER

JACKSON, MONIQUE R

ART UNIT PAPER NUMBER

1773

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/724,692

Applicant(s)

MICHL ET AL.

Examiner

Monique R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,6-22 and 24-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-22 and 24-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/9/06 has been entered.

2. The amendment filed 11/4/05 has been entered. Claims 5 and 23 has been canceled. Claims 1, 2, 4, 6-22, 24-39 are pending in the application.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 103*

4. Claims 1, 2, 4, 6-22 and 24-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreher et al for the reasons generally recited previously and restated below.

Dreher et al teach a formaldehyde-free thermally hardenable polymer binding agent in the form of a powder, in particular for fibrous and grainy materials including wood chips, wood fibers, glass fibers, etc.; wherein the binding agent includes 87.5-12.5wt% of polymer A1, 87.5-12.5wt% A2, 0.1 to 30wt%, of at least one amine containing hydroxyl group, wherein the polymer A1 is preferably a copolymer of 80-100wt% of a principal monomer including styrene and/or olefins such as ethylene, propylene, butene, and isotene (*reads on the instantly claimed*

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*copolymer*); with suitable comonomers including carboxylic acids or their anhydrides including maleic anhydride (Abstract; Claims; Col. 3-4; Col. 22, lines 23-35; Col. 23, lines 37-35; Col. 23, line 65-Col. 24, line 4; Col. 24, lines 44-50.) Dreher et al further teach that the polymer A2 includes at least one amine with at least one hydroxyl group incorporated therein (*reads upon the instantly claimed crosslinker*), with particularly maleic anhydride and may also include 0 to 20wt% of other monomers such as styrene, olefins, (meth)acrylates, and mixtures thereof (Col. 6-9.) Dreher et al also teach examples utilizing styrene in polymer A1 and maleic anhydride in polymer A2 but do not specifically teach that polymer A1 includes a copolymer of maleic anhydride with olefins and/or styrene as instantly claimed. However, Dreher et al clearly teach that maleic anhydride is a suitable comonomer with the preferred principal monomer styrene and/or other principal monomers such as the cited olefins, and hence one having ordinary skill in the art at the time of the invention would have been motivated to utilize styrene and/or any olefin as the comonomer with maleic anhydride particularly considering SMA and maleic anhydride/ $\alpha$ -olefin copolymers are known thermosetting copolymers utilized in the art. Dreher et al further teach that other crosslinkers or reaction accelerants may be included in the composition but do not specifically teach the crosslinkers as recited in instant claims 23 and 33, however, the claimed crosslinkers are known crosslinking agents for maleic-anhydride copolymers and would have been obvious to one having ordinary skill in the art at the time of the invention. Further, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum composition of A1 and A2 to provide the desired curing and mechanical properties for a particular end use.

*Response to Arguments*

5 Applicant's arguments filed 5/9/06 have been considered but are not persuasive. The Applicant first argues that the composition taught by Dreher et al includes a second polymer while the instant invention comprises only one copolymer and a specific crosslinker, wherein further materials only include additive materials but no further polymers. However, the Examiner notes that the instant claims are drafted in the open transition language "comprising" and hence does not exclude the incorporation of other materials including other polymers, nor does the term "further additive materials" exclude other polymers. The Applicant also argues that Dreher et al do not teach or suggest copolymers that are obtained by polymerizing maleic anhydride with at least one alpha-olefin or at least one alpha-olefin and styrene. The Examiner respectfully disagrees and as discussed above, Dreher et al clearly teach that maleic anhydride is a suitable comonomer with the preferred principal monomer styrene **and/or other principal monomers such as the cited olefins**, and hence one having ordinary skill in the art at the time of the invention would have been motivated to utilize styrene and/or any olefin as the comonomer polymerized with the maleic anhydride taught by Dreher et al. Lastly, the Applicant argues that Dreher et al do not teach that their binder compositions are useful for the preparation of products having high mechanical strength and dimensional stability, even under humid conditions, and that the instant binder composition exhibits excellent tack under anhydrous application conditions. However, the Examiner notes that these properties are not part of the claimed invention, and the Applicant has provided no clear showing of unexpected results with regards to these properties over the invention taught by Dreher et al. Hence, the Examiner maintains her

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position that the invention as instantly claimed would have been obvious over the teachings of Dreher et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monique R. Jackson  
Primary Examiner  
Technology Center 1700  
September 17, 2006